

AMENDMENTS TO THE CLAIMS

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims in the application.

Please amend claims 1-9 and 13-37 as follows:

1 1. (Currently Amended) A method for interconnecting wired and wireless phone services
2 ~~of a system for interconnecting wired and wireless phone services~~, the method comprising the steps
3 of:

4 registering at least one of a plurality of wired terminals, and a plurality of public and private
5 mobile communication terminals as extension subscribers, endowing the plurality of wired terminals
6 with first designated wired phone numbers, and endowing the ~~extension subscribers~~ plurality of
7 public and private mobile communication terminals with public wireless phone numbers and
8 endowing, by a wired and wireless interconnecting unit, second designated ~~each of~~ wired phone
9 numbers which have formats of the first designated wired phone numbers different from formats of
10 the public wireless phone numbers of the public and private mobile communication terminals; and

11 when an arbitrary wired phone number is called and the arbitrary wired phone number is
12 corresponding to a wired phone number of one of the plurality of wired terminals, making a call to
13 the wired terminal corresponding to the arbitrary wired phone number[.])through a wired
14 communication network; and when there is the public and private mobile communication terminal
15 to be simultaneously called with the arbitrary wired phone number interconnectively, making a call
16 to [[the]] a corresponding public and private mobile communication terminal by a corresponding

17 second designated wired phone number through a mobile communication network.

1 2. (Currently Amended) The method according to claim 1, wherein the step of making a call
2 to the public and private mobile communication terminal comprising the steps of:

3 when [[an]] the arbitrary wired phone number is called, searching for a database and
4 determining whether there is the public and private mobile communication terminal to be
5 simultaneously called with the wired phone number interconnectively; and

6 when there is the public and private mobile communication terminal to be simultaneously
7 called with the wired phone number interconnectively as a result of the determination, transferring
8 a ring signal to the corresponding wired phone terminal and to the public and private mobile
9 communication terminal, simultaneously.

1 3. (Currently Amended) The method according to claim 2, wherein the step of transferring
2 the ring signal to the public and private mobile communication terminal ~~comprising being performed~~
3 by the steps of:

4 transferring the ring signal for making a call to the public and private mobile communication
5 terminal through a private base station apparatus which provides the public and private mobile
6 communication terminal with a private wireless environment; and

7 when there is no response from the public and private mobile communication terminal for
8 a predetermined time, transferring the ring signal for making a call to the public and private mobile
9 communication terminal through the public mobile communication network.

1 4. (Currently Amended) The method according to claim 2, wherein said database includes
2 a first wired phone number with which each wired terminal is endowed, a second wired phone
3 number with which each of the public and private mobile communication terminals is endowed, and
4 a public wireless phone number with which each of the public and private mobile communication
5 terminal is endowed through the public mobile communication network.

1 5. (Currently Amended) The method according to claim 2, wherein said database includes
2 first identification information indicating whether [[an]] the arbitrary wired phone number is a
3 number connected to a wired terminal [[or not]], second identification information indicating
4 whether the arbitrary wired phone number uses a simultaneous terminating service [[or not]], and
5 a second wired phone number of said public and private mobile communication terminal which is
6 called by the simultaneous terminating function.

1 6. (Currently Amended) The method according to claim 1, further comprising steps of:
2 when an arbitrary phone number is called, determining whether the corresponding wired
3 phone number is a wired subscriber terminal or not; and
4 when the corresponding wired phone number is not [[a]] the wired subscriber terminal as a
5 result of the determination, making a call to the public and private mobile communication terminal
6 corresponding to the wired phone number through the mobile communication network.

1 7. (Currently Amended) The method according to claim 1, wherein, in the case that an
2 outgoing request is made from the public and private mobile communication terminal, the method
3 comprising steps of:

4 receiving an outgoing phone number and ~~a mobile identifier number~~ the public wireless
5 phone number of the public and private mobile communication terminal endowed from the public
6 mobile communication network, from the public and private mobile communication terminal;

7 determining whether a private mobile communication service is used ~~[[or not]]~~ from the
8 outgoing phone number; and

9 when the private mobile communication service is used as a result of the determination,
10 transmitting the second wired phone number with which the corresponding public and private mobile
11 communication terminal is endowed using ~~[[the]]~~ a caller identification.

1 8. (Currently Amended) The method according to claim 7, wherein, in the case that ~~[[an]]~~
2 the outgoing request is made from the public and private mobile communication terminal, the
3 method further comprising step of:

4 when the public mobile communication service is used as ~~[[a]]~~ the result of the
5 determination, transmitting the ~~mobile identifier number~~ public wireless phone number of the public
6 and private mobile communication terminal which is received from said public and private mobile
7 communication terminal using the caller identification.

1 9. (Currently Amended) A method for interconnecting wired and wireless phone services
2 of a system for interconnecting wired and wireless phone services, the method comprising:

3 making a call, at a wireless terminal, to a phone number of another a party associated with
4 a phone number while using a wireless terminal;

5 transferring the call generated by the wireless terminal to a wired and wireless
6 interconnecting unit;

7 changing by the wired and wireless interconnecting unit, a caller identification of the call to
8 a virtual wired number with which a wireless terminal is endowed by the wired and wireless
9 interconnecting unit, with the virtual wired number having a format of a wired phone number of a
10 wired terminal and being different from the wired phone number of the wired terminal; and

11 determining whether the phone number of the call is an external outgoing number, the
12 external outgoing number being outside of a mobile zone of the wireless terminal.

1 10. (Original) The method of claim 9, further comprising of storing the call in a message
2 and transferring to the wired and wireless interconnecting unit when the phone number is an external
3 outgoing number.

1 11. (Original) The method of claim 10, further comprising of making a call to an external
2 subscriber of the corresponding phone number by said wired and wireless interconnecting unit.

1 12. (Original) The method of claim 11, further comprising of making a call to an internal
2 subscriber within the mobile zone when the phone number is not an external outgoing number.

1 13. (Currently Amended) The method of claim 12, with said step of transferring of the call
2 generated by the wireless terminal to the wired and wireless interconnecting unit ~~further comprised~~
3 ~~of- being formed by~~ transferring the call to a mobile gateway of said wired and wireless
4 interconnecting unit through a private base station transceiver subsystem and a private base station
5 controller of said wired and wireless interconnecting unit, said private base station transceiver
6 subsystem constructing a wireless communication path with an arbitrary mobile communication
7 terminal in a service area of said private base station transceiver subsystem and manages wireless
8 resources for the mobile communication.

1 14. (Currently Amended) The method of claim 13, with said step of changing ~~by the wired~~
2 ~~and wireless interconnecting unit~~ the caller identification of the call being performed by changing
3 ~~by~~ the private base station controller of the wired and wireless interconnecting unit.

1 15. (Currently Amended) The method of claim 14, with said step of determining whether
2 the phone number of the call is [[an]] the external outgoing number being performed by said mobile
3 gateway.

1 16. (Currently Amended) The method of claim 15, with said step of transferring to the wired
2 and wireless interconnecting unit when the phone number is [an]] the external outgoing number,
3 being performed by ~~further comprised of~~ transferring to a wired exchange of said wired and wireless
4 interconnecting unit when the phone number is [[an]] the external outgoing number.

1 17. (Currently Amended) The method of claim 9, with said step of transferring of the call
2 generated by the wireless terminal to the wired and wireless interconnecting unit ~~further comprised~~
3 of being performed by transferring the call to a mobile gateway of said wired and wireless
4 interconnecting unit through a private base station transceiver subsystem and a private base station
5 controller of said wired and wireless interconnecting unit, said private base station transceiver
6 subsystem constructing a wireless communication path with an arbitrary mobile communication
7 terminal in a service area of said private base station transceiver subsystem and manages wireless
8 resources for the mobile communication.

1 18. (Currently Amended) The method of claim 17, with said step of changing ~~by the wired~~
2 ~~and wireless interconnecting unit~~ the caller identification of the call being changing ~~by~~ performed
3 by the private base station controller of the wired and wireless interconnecting unit.

1 19. (Currently Amended) The method of claim 18, with said step of determining whether
2 the phone number of the call is an external outgoing number being performed by said mobile
3 gateway.

1 20. (Currently Amended) The method of claim 9, with said step of transferring of the call
2 generated by the wireless terminal to the wired and wireless interconnecting unit ~~further comprised~~
3 ~~of being performed by~~ transferring the call to a group exchange of said wired and wireless
4 interconnecting unit through a private base station transceiver subsystem and a private base station
5 controller of said wired and wireless interconnecting unit, said private base station transceiver
6 subsystem constructing a wireless communication path with an arbitrary mobile communication
7 terminal in a service area of said private base station transceiver subsystem and manages wireless
8 resources for the mobile communication, said group exchange endowing each extension subscriber
9 with a wired phone number.

1 21. (Currently Amended) The method of claim 20, with said step of changing ~~by the wired~~
2 ~~and wireless interconnecting unit~~ the caller identification of the call being changing by performed
3 by the private base station controller of the wired and wireless interconnecting unit

1 22. (Currently Amended) The method of claim 21, with said step of determining whether
2 the phone number of the call is an external outgoing number being performed by said group
3 exchange.

1 23. (Currently Amended) A method for interconnecting wired and wireless phone services
2 of a system for interconnecting wired and wireless phone services, the method comprising:

3 when an arbitrary external subscriber terminal makes a call to an arbitrary wired phone
4 number through a public network, calling a first part of a wired and wireless interconnecting unit
5 with ~~a corresponding~~ the arbitrary wired phone number through the public network and determining
6 whether the called phone number is a wired subscriber number;

7 when the called phone number is the wired subscriber number, transferring the called phone
8 number to a second part of the wired and wireless interconnecting unit through ~~[[the]]~~ a wired
9 subscriber circuit; and

10 when the called phone number is not the wired subscriber number, distributing ~~[[the]]~~ a
11 virtual subscriber circuit and directing the call passing through the virtual subscriber circuit to a
12 wireless terminal, with the virtual subscriber circuit being selected and transferred to the second part
13 of the wired and wireless interconnecting unit, and with the virtual subscriber circuit employing a
14 virtual wired phone number of the wireless terminal, endowed by the wired and wireless
15 interconnecting unit; and distributing the call to the wireless terminal by the endowed virtual wired
16 phone number of the wireless terminal through the virtual subscriber circuit.

1 24. (Currently Amended) The method of claim 23, further comprising of:

2 determining by a second part of the wired and wireless interconnecting unit, whether the
3 corresponding called phone number ~~in a database of the second part~~ is a multiple terminating number
4 in the reference to a database of the second part.

1 25. (Currently Amended) The method of claim 24, further comprising of when the
2 corresponding phone number is not the multiple terminating number, distributing the call to [[the]]
3 a wired subscriber.

1 26. (Currently Amended) The method of claim 25, further comprising of, when the
2 corresponding phone number is the multiple terminating number, firstly, distributing the call to the
3 wired subscriber, at first and [[then]] secondly, requesting, at the second part of the wired and
4 wireless interconnecting unit, requests a virtual number [[and]] with the virtual number for the
5 corresponding wired phone number [[is]] being provided, and the call [[is]] being distributed to
6 [[the]] a corresponding wireless terminal.

1 27. (Currently Amended) The method of claim 26, further comprising of:
2 when it is not the wired subscriber number as a result of the determination, selecting [[a]] the
3 virtual subscriber circuit distributed to the wireless terminal and transferring the selected virtual
4 subscriber circuit to the first part of the wired and wireless connecting apparatus unit; and
5 distributing by the first part, the call to the corresponding wireless terminal after selecting
6 the virtual subscriber circuit distributed to the wireless terminal and transferring the virtual
7 subscriber circuit to the first part the wired and wireless connecting unit and the corresponding
8 wireless terminal accordingly; ~~the corresponding wireless terminal responds~~ responding to the
9 distribution.

1 28. (Currently Amended) The method of claim 27, further comprising of:

2 when an arbitrary subscriber terminal makes a call to an arbitrary wired phone number,
3 receiving by the second part of the wired and wireless interconnecting unit, the corresponding wired
4 phone number and determines whether the called phone number is an incoming call number for an
5 extension subscriber in the second part of the wired and wireless interconnecting unit;

6 when the called phone number is not the extension incoming call, performing a Tandem call
7 and transferring the call to the first part of the wired and wireless interconnecting unit; and

8 when the called phone number is an extension incoming call, determining by the second part
9 of the wired and wireless interconnecting unit whether the corresponding phone number is a wired
10 phone number in said step of determining whether the called phone number is the wired subscriber
11 number.

1 29. (Currently Amended) A method for interconnecting wired and wireless phone services
2 ~~of a system for interconnecting wired and wireless phone services~~, the method comprising:

3 when an arbitrary external subscriber terminal makes a call to an arbitrary wired phone
4 number through a public network, calling by a first part of a wired and wireless interconnecting unit,
5 the corresponding arbitrary wired phone number through the public network and determining
6 whether the called arbitrary phone number is the wired subscriber number;

7 when the called phone number is the wired subscriber number, transferring the called phone
8 number to a second part of said wired and wireless interconnecting unit through a wired subscriber
9 circuit;

determining by the second part, whether the ~~corresponding arbitrary~~ wired phone number in a database is a multiple terminating number;

when the corresponding phone number is the multiple terminating number, firstly distributing the call to the wired subscriber ~~at first~~ and ~~[[then]]~~ secondly requesting at the second part of the wired and wireless interconnecting unit requests a virtual number for a corresponding wireless terminal, and the virtual number for the corresponding wired phone number is provided with the virtual number being generated by the wired and wireless interconnecting unit and having different a different format compared to a public wireless phone number of the corresponding wireless terminal, and distributing the call ~~is distributed~~ to the corresponding wireless terminal by the virtual number;

when the wired terminal and the wireless terminal responds in a mobile zone, processing the call according to the response;

determining whether there exists a subscriber in the mobile zone when there is no response to the call in the mobile zone;

when there does not exist the subscriber in the mobile zone as the response of the wired terminal or wireless terminal does not exist in the mobile zone, ~~making directing~~ by the second part of the wired and wireless interconnecting unit, ~~[[a]]~~ the call to a wireless terminal in a public mobile communication network; and

when the subscriber exists in the mobile zone and there is no response to the call in the mobile zone, transmitting a voice information message to the wireless terminal in the mobile zone.

1 30. (Currently Amended) The method of claim 29, further comprising of when the
2 corresponding arbitrary phone number is not the multiple terminating number, distributing the call
3 to the wired subscriber.

1 31. (Currently Amended) The method of claim 30, when the called arbitrary phone number
2 is not the wired subscriber number as a result of the determination, selecting the virtual subscriber
3 circuit distributed to the wireless terminal and transferring the selected virtual subscriber circuit to
4 the second part of the wired and wireless interconnecting unit.

1 32. (Currently Amended) The method of claim 29, further comprising of when the called
2 phone number is not the extension incoming call number, transferring the called arbitrary phone
3 number to the first part of the wired and wireless interconnecting unit and the called phone number
4 is a Tandem call number.

1 33. (Currently Amended) The method of claim 29, further comprising of when ~~[[an]]~~ the
2 arbitrary subscriber terminal makes ~~[[a]]~~ the call to ~~[[an]]~~ the arbitrary wired phone number through
3 the public network, the second part of the wired and wireless interconnecting unit receiving receives
4 the corresponding wired phone number through the public network and ~~determines~~ determining
5 whether the called phone number is the incoming call number for the extension subscriber in the
6 second part of the wired and wireless interconnecting unit in the step of determining whether the
7 called arbitrary phone number is the wired subscriber number.

1 34. (Currently Amended) A computer-readable medium storage medium having
2 computer-executable instructions for performing a method, the computer-executable instructions
3 comprising:

4 ~~endowing each of a plurality of extension subscribers with wired phone numbers where at~~
5 ~~least one of a plurality of wired terminals and mobile communication terminals are extension~~
6 ~~subscribers;~~

7 registering at least one of a plurality of wired terminals, and a plurality of public and private
8 mobile communication terminals as extension subscribers, endowing a plurality of wired terminals
9 with first designated wired phone numbers, and endowing the plurality of public and private mobile
10 communication terminals with public wireless phone numbers and endowing, at a wired and wireless
11 interconnecting unit, second designated wired phone numbers which have formats of the first wired
12 phone numbers different from formats of the public wireless phone numbers of the public and private
13 mobile communication terminals;

14 making a call to said wired terminal corresponding to the wired phone number[.])through
15 a wired communication network, when a wired phone number is called and the arbitrary wired phone
16 number is corresponding to a wired phone number of one of the plurality of wired terminals; and

17 making a call to the corresponding mobile communication terminal by the corresponding
18 second designated wired phone number through a mobile communication network when there is said
19 mobile communication terminal to be simultaneously called with the wired phone number
20 interconnectively.

1 35. (Currently Amended) The computer-readable storage medium having
2 computer-executable instructions for performing a method of claim 34, wherein the step of making
3 of the call to the mobile communication terminal comprising of:

4 when a wired phone number is called, determining whether there is the mobile
5 communication terminal to be simultaneously called with the wired phone number interconnectively.

1 36. (Currently Amended) The computer-readable storage medium having
2 computer-executable instructions for performing a method of claim 35, wherein the making of the
3 call to the mobile communication terminal further comprising of:

4 when there is the mobile communication terminal to be simultaneously called with the wired
5 phone number interconnectively as a result of the determination, transferring a ring signal to the
6 corresponding wired phone terminal and to the mobile communication terminal, simultaneously.

1 37. (Currently Amended) A computer-readable storage medium having stored thereon a data
2 structure, comprising:

3 a first field containing data representing, when an arbitrary external subscriber terminal
4 makes a call to an arbitrary wired phone number through a public network, calling a first part of a
5 wired and wireless interconnecting unit with a corresponding wired phone number through the
6 public network and determining whether the called phone number is a wired subscriber number;

7 a second field containing data representing, when the called phone number is the wired

8 subscriber number, the called phone number is transferred to a second part of the wired and wireless
9 interconnecting unit through [[the]] a wired subscriber circuit; and

10 a third field containing data representing, when the called phone number is not the wired
11 subscriber number, distributing [[the]] a virtual subscriber circuit to a wireless terminal and directing
12 the call passing through the virtual subscriber circuit, with the virtual subscriber circuit being
13 selected and transferred to the second part of the wired and wireless interconnecting unit, and with
14 the virtual subscriber circuit employing a virtual phone number of the wireless terminal, endowed
15 by the wired and wireless interconnecting unit, the virtual phone number having a format of the
16 wired phone number different from a format of a public wireless phone number of the wireless
17 terminal; and distributing the call to the wireless terminal by the endowed virtual phone number of
18 the wireless terminal.